REDFIELD®

RIFLE SCOPE INSTRUCTIONS

TO INSURE TOTAL SATISFACTION AND TROUBLE FREE SERVICE FROM YOUR SCOPE PLEASE READ THIS BOOKLET BEFORE MOUNTING.

WARRANTY INFORMATION ENCLOSED

EVERY RIFLE SCOPE, STEEL RING, AND STEEL BASE IS MADE IN DENVER, COLORADO, U.S.A.

THE BRIGHTEST SCOPES
YOU'VE EVER SEEN

REDFIELD

ULTIMATE 30mm ILLUMINATOR®

ILLUMINATOR®

—Quality Features—

- One piece tube construction
  - — Eliminates potential leak paths
  - — Improves axial alignment for better image quality
  - — Stronger and more dependable
- Advanced optical system
  - — Unique triplet lens system for excellent optical clarity
  - — Lenses coated for highest light transmission
  - — 12 lens elements for highest attainable image quality

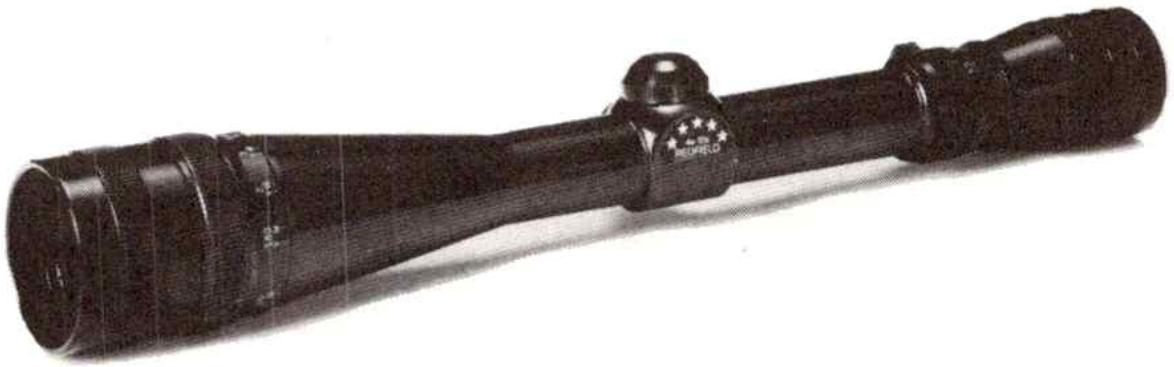
Lifetime limited warranty

Available in matte finish

Made in Denver, CO, USA

REDFIELD

Golden *Five* Star™ Scopes



The Scope With a 5 Star Rating

★ Brightest new multicoated lens system
★ Positive ¼ minute click adjustments
★ Ultra strong one piece tube
★ Scratch Resistant hardcoat and zinc finish
★ Written limited lifetime warranty

Additional Features

- Free set of Butler Creek lens covers
- 4x, 6x, 2x-7x, 3x-9x, 4x-12x, 6x-18x
- Accu-trac is available for precise range finding and bullet trajectory compensation
- Also available in a complete range of compacts
- Made in Denver, CO, USA

About Your New Redfield Scope

Your Redfield scope is a precision optical instrument. It was designed, fabricated and hand assembled by skilled craftsmen for the sole purpose of providing you the utmost hunting and shooting enjoyment, using the finest quality scope attainable.

Because of its careful basic component design, the precision with which the parts were manufactured and the sturdy construction techniques used, your Redfield will stand up under the repeated pounding of even the heaviest magnum rifles. However, as with any precision instrument, the exercise of normal prudent care and a thorough understanding of how a scope works will assure you of top performance and years of satisfaction from its use. Please read the following instructions and suggestions carefully.

Caring for Your Scope

All potential leak paths, including the adjustment turret housings, are sealed, using aircraft-quality neoprene "O" rings and special sealants. This prevents moisture and dust from entering and contaminating the scope's internal atmosphere. Adjustment caps can be left off while making preliminary zeroing or subsequent adjustments but should be replaced when finished to avoid a buildup of dust or grime around the adjustment mechanisms and to avoid possible loss of the caps. **Warning: do not use solvents such as WD-40 around adjustment mechanisms or outside lenses. These solvents have a high penetration and can contaminate internal lens surfaces.**

Lens covers are helpful in protecting the lenses from film and dust buildup and to keep them free from water droplets during rain or snow storms. We strongly advise against leaving transparent lens covers in place when shooting. **The**

Redfield also makes other types of mount designed to accommodate specific mounting requirements. Ask your dealer for a new Redfield catalog that shows the complete line of Redfield products.

Preliminary Scope Adjustments

Before installing the scope, you should set the focus of the eyepiece to fit your individual visual requirement.

The ocular focus is set at the factory for normal 20/20 visual acuity. Refocusing the ocular distance will result in a sharper reticle focus, an **improved optical image** and avoid eye fatigue when using the scope over prolonged periods of time.

To reset, hold the scope about 3 or 4 inches away from your eye and pointed at an unpatterned area such as the sky or a painted wall. If the reticle appears blurred when you first glance at it, it is out of focus. Turn the eyepiece counterclockwise several turns and glance at the reticle. It should be crisp and sharp to the quick glance (continued study allows the eye to adjust to an out-of-focus condition). Repeat this process until you see the reticle crisply and clearly when you first look at it. When the reticle has been adjusted, tighten the lock ring against the eyepiece to hold it in place. **On some model scopes the ocular lens adjusts via a knurled ring at the end of the eyepiece. Follow the same procedure as above except there is no lock ring to tighten.** Unless your eyes undergo a significant change in acuity over the years, you will not have to make this adjustment again.

The eyepiece is turned on mechanically at the factory. **Occasionally this results in the lock ring being difficult or impossible to loosen at first. Simply hold the scope tube firmly with one hand and turn the eyepiece with the other hand.** This will loosen the lock ring enough to be able to back it off. **Also, the eyepiece of a Low Profile Widefield may be**

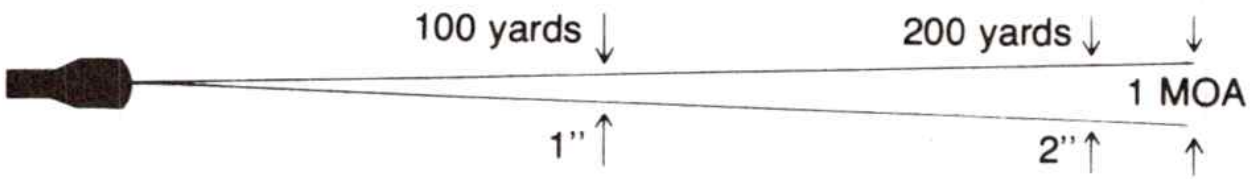
freedom where the full field is visible. **Move the scope to the forwardmost position for maximum eye relief.** When the scope is properly positioned axially, rotate the tube until the horizontal crosswire is parallel with the ground plane. Tighten the ring screws.

Eye relief on Redfield pistol scopes is non-critical. Set the scope for full field of view when the pistol is held at normal arms length.

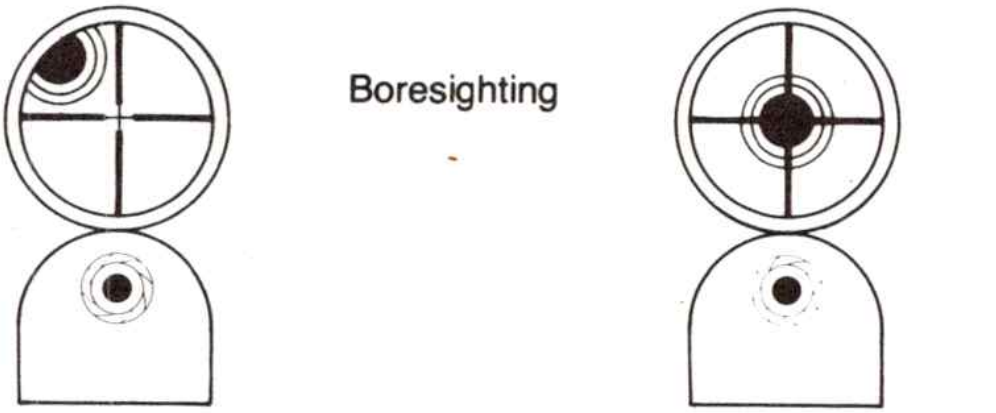
Making Windage and Elevation Adjustments

Remove the two turret caps. The Elevation knob is marked "UP" with an arrow indicating the direction to turn the knob to move the Point of Impact (PI) up on the target. The Windage knob is marked "R" with a similar arrow indicating the direction to move PI to the right. (For Accu-Trac adjustments, see the section on Accu-Trac).

A graduated scale around the adjustment knob is marked in increments representing a certain amount of Point of Impact movement on the target. Look up your model scope on the following chart, and the number across from it tells how much one increment moves the Point of Impact at 100 yds. As you half, double or triple this distance the Point of Impact movement per increment moves accordingly. Example: At 200 yds. Point of Impact doubles, but at 25 yds. it is only ¼.



the scope and note where the reticle is positioned on the target. The following illustration of the preliminary sight picture shows that the reticle needs to be moved "UP" and to the "LEFT." In making presighting adjustments with the Redfield JR or SR, **use the base windage screws to bring the reticle as close as possible to final zero,** making subsequent final adjustments with the windage adjustment of the scope. Make the estimated correction and then repeat the boresighting procedure to verify the accuracy of this adjustment. When you have finished, the sight picture should look like the example at right in the illustration.



Preliminary Sight Picture

Corrected Sight Picture

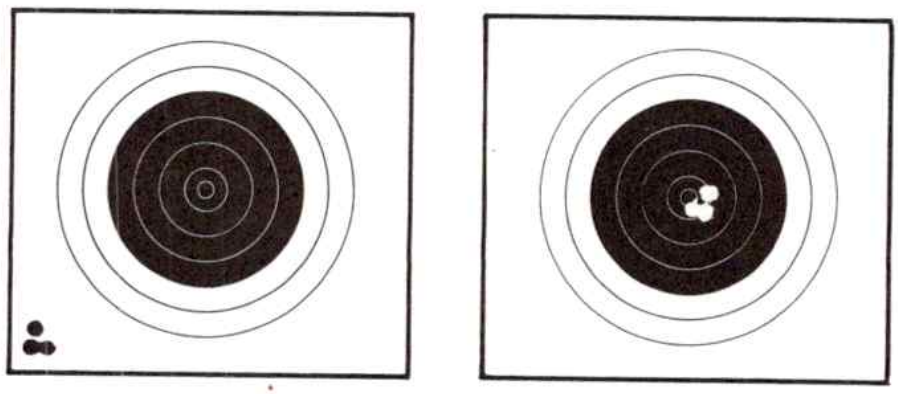
IMPORTANT — All Redfield scopes are tested during final inspection to be certain that they provide maximum internal adjustment range. After testing, the reticle is centered in the scope mechanically. Variations in rifle receiver dimension, mounting holes drilled out of alignment with the receiver or barrels threaded into the receiver at an angle will often use up much or all of this adjustment capability. It may be impossible in such cases to obtain a zero setting.

If the problem is inadequate windage adjustment, this can be overcome by using a mount with outside adjustment capability such as the Redfield JR or SR mount.

the right at the 3-o'clock position will normally drift a .30-06 factory bullet about 1 1/2 inches to the left. When you have finished zeroing in a 15MPH wind, simply adjust the Windage knob 1 1/2 inches to the left. This will result in a standard no-wind zero.

The bullet crosses the line of sight twice; the first time about 25 yards out from the muzzle. You can utilize this fact by firing your first zero shot at a target at 25 yards. If the first shot prints very close to the center of the bullseye at this range, you can be confident that it will print on paper at 100 yards. If there is a significant error at 25 yards, make compensating changes to bring the PI to zero. Since the distance is only 1/4 of the 100 yard final zero distance, you will need to make 4 times as much adjustment as you would at 100 yards.

For final zero, move the target to 100 yards (assuming this to be the desired zero distance) and fire at least 3 shots to establish a pattern. Using the center of this group as a reference, make any necessary adjustments to move the PI to center. You should fire another group of 3 shots to verify that this adjustment was correct. Do not trust a one-shot zero as accurate.



Some Common Problems not Attributable to the Scope

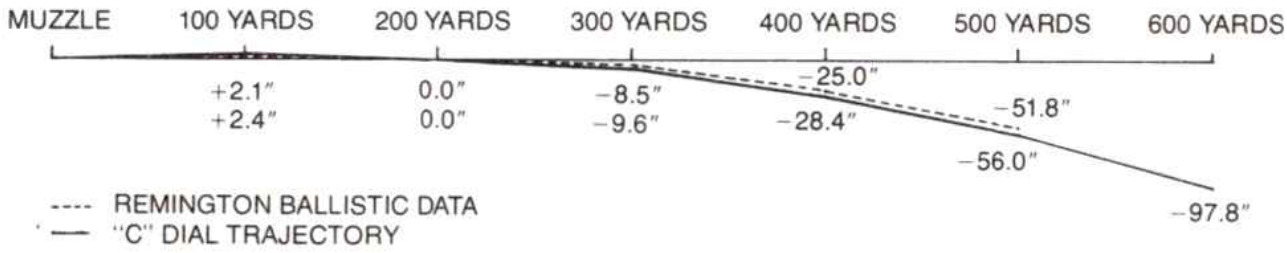
Symptom/Condition	*Possible cause/Corrective action*
Scope runs out of windage adjustment before zero is complete	**1.** Mounting holes in receiver drilled out of alignment. Use mount with outside adjustment feature in base — Such as Redfield JR or SR mounts. **2.** Barrel threaded into action at an angle. Solution same as above. **3.** Scope tube bent due to dropping or misuse. Return scope for replacement of tube. Not covered by warranty.
Scope runs out of elevation adjustment before zero is complete	**1.** Receiver diameter out of spec. Use brass shim stock under mount. .005″ shim placed under rear of mount base will raise PI about 3.5 MOA. **2.** Barrel threaded into action at an angle. Solution same as above. **3.** Tube bent due to dropping or misuse. Return scope for replacement of tube. Not covered by warranty.

Symptom/Condition	*Possible cause/Corrective action*
Image not in sharp focus	**1.** If concurrent with reticle focus described above, read section "Preliminary scope adjustments".
	2. Object too close to objective. High magnification cannot resolve objects at distances of 10 to 20 feet with any clarity.
	3. In scope featuring outside parallax correction feature, setting is probably mis-adjusted.

Understanding and Using Accu-Trac

There is nothing arcane or mysterious about Accu-Trac. Any knowledgeable shooter who can estimate distances to within ±5%, who knows the ballistic drop of his particular bullet at all ranges and is able to hold over the animal the proper amount can achieve a certain amount of accuracy in longer range shooting. With Accu-Trac, we have built in the rangefinding capability and, using a selection of dials correlated to the ballistic trajectory of the most popular hunting calibers, prefigured the proper elevation setting for each dial so that no holdover is required. The following illustration shows the simple steps required to use Accu-Trac successfully . . . and the whole process takes only seconds to use.

We have plotted this trajectory on a graph below represented by a dashed line. In the Accu-Trac Compatible Ballistics chart further on in the booklet, you will find this bullet listed under "C" dial. To show the conformity of "C" dial to the given ballistic above, we have shown the theoretical trajectory for that dial as a solid line.



Notice that the two trajectories are almost identical. If you were using a scope without the Accu-Trac automatic compensation feature, you would turn the Elevation dial "UP" 3 inches (8.5″ ÷ 3) to use the rifle at 300 yards. With Accu-Trac, we have placed a log line marked "3" to indicate that that is the proper adjustment for the 300 yard distance. You don't have to figure how much to turn the dial.

To install the proper dial for the bullet caliber and weight you will be using, simply find that bullet listing in the Accu-Trac Compatible Ballistics chart following. Remove the dial that comes with your scope and install the proper dial (in this case "C") in its place.

.308 Win.	110/150/180 Gr. PSP	2800
.338 Win. Mag.	250 Gr. ST	2660
.375 H&H Mag.	270 Gr. RN	2690

"D" Dial		M.VEL
.25-35 Win.	117 Gr. RN	2270
6.5mm Mann.	160 Gr. SP	2010
.256 Win. Mag.	60 Gr. HP	2760
.30 Rem.	170 Gr. RN	2120
.30-30 Win.	150/170 Gr. RN	2300
.30-40 Krag	220 Gr. RN	2160
.300 Sav.	180 Gr. RN	2120
.303 Brit.	215 Gr. RN	2170
.32 Spcl.	170 Gr. RN/ST	2250
.35 Rem.	150 Gr. PSP	2390
.358 Win.	250 Gr. RN	2230
.458 Win. Mag.	500/510 Gr. FMJ/RN	2115

"D" is not available for the 4x12x or 6x18x models.

Dial selection for ammunition not listed

Following is the theoretical ballistic track for each of the Accu-Trac dials.

	Range in Yards					
	100	*200*	*300*	*400*	*500*	*600*
Dial "A"	+1.6"	0.0	−6.9"	−20.0"	−40.5"	−68.4"
Dial "B"	+2.0"	0.0	−8.1"	−24.4"	−48.0"	−83.4"
Dial "C"	+2.4"	0.0	−9.6"	−28.4"	−56.0"	−97.8"
Dial "D"	0.0	−9.0"	−30.3"	−71.2"		

Accu-Trac is calibrated from 200 to 600 yards so you will need a 200 yard zero. If possible, zero on an actual 200 yard range. If a 200 yard range is not available, you can zero the scope high at 100 yards. The amount of this MRT is shown below:

Dial "A"	+1.6″
Dial "B"	+2.0″
Dial "C"	+2.4″
Dial "D"	*0

* "D" dial is calibrated from a 100 yard zero

NOTE: Accu-Trac Elevation dials are of different MOA value than the Windage dials and the Elevation dials on non-Accu-Trac scopes. For correct values, see the section "Making Windage and Elevation Adjustments".

Calibrating the dial

Once the scope has been zeroed, place the correct dial on the Elevation Bushing and turn it clockwise until it stops. The figure "2," representing the 200 yard zero ("1" on the "D" dial which represents 100 yard zero), will be aligned with the "zero reference line." Tighten the hex-head screw, being careful not to change the elevation setting while doing so. You are now calibrated for the 200 yard zero and all other ranges.

Using Accu-Trac on various sized game

Deer, which measure 18″ from shoulder to brisket, are very convenient objects for using Accu-Trac. However, other animals of large or smaller size can also be used by applying the factors listed below. For example: The body of an elk, measuring 24″ from shoulder to brisket, indicates a distance of 300 yards. To compensate for the large body size, find the actual distance under the 300 yard column as 400 yards.

The widest excursion of the loop in the example is at about 130°. This tells you that the Elevation adjustment should be moved up and the Windage adjustment should be moved left. Make these adjustments and repeat the rotation. You should find that the loop is less elliptical and smaller (figure 2). Make subsequent finer adjustments until the reticle intersection makes little or no excursion from the aiming point. This should be adequate for all practical purposes. An attempt to completely eliminate off-centering is tedious and unnecessary.

Parallax and Objective Focus

Parallax occurs when the image rays from the object being viewed do not fall precisely on the reticle plane. Since a gap exists between the two planes, moving your eye off center to the edge of the exit pupil will produce an apparent movement of the reticle in relation to the target. If the eye is not moved off center in the exit pupil, parallax error can not be discerned and there will be no PI shift in firing.

When a scope is free from parallax, it is also at its best focus.

Parallax is a negligible factor in scopes of hunting power and, since neither the average hunting rifle or factory ammunition is of target accuracy, the effect of parallax is not deemed to be of significant importance to accuracy in typical hunting situations.

However, parallax effect increases with an increase in power and the scope's depth of focus decreases. Therefore, in higher power scopes such as target scopes and scopes used

Customer Service

We take pride in the reputation Redfield has earned for quality, integrity and superior customer service. If your scope should ever need service, we are confident you will find us responsive, courteous and extremely fair to deal with. You do not have to return your scope through your dealer. We invite you to contact us directly at:

Customer Service Department
The Redfield Company
5800 East Jewell Avenue
Denver, CO 80224

In Canada, send scope to:

Calgary Scope Repair Depot
P.O. Box 5808, Station A
Calgary, Alberta
Canada T2H 1Y3

When returning your scope, please describe the nature of the problem as accurately as possible and include with the returned scope. This will enable us to locate the source of the problem quickly and minimize the time you are without your scope. Please print your name and address clearly on the package and accompanying correspondence. Please include $6.00 to cover handling and transportation costs.

REDFIELD

All Sports WIDEFIELD BINOCULARS

Excellent Quality Binoculars At A Price Sports Enthusiasts Can Afford

- Roof prism design
- Tough black armor coat
- Center focus with right eye compensator
- Available in 8x20, 8x24, 7x35, 10x50 and the exciting 6x-15x-24 electric zoom
- 7x35 and 10x50 now available in waterproof and camouflage models

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